Linking CDM PoAs and NAMAs: legal and technical challenges and proposed design options

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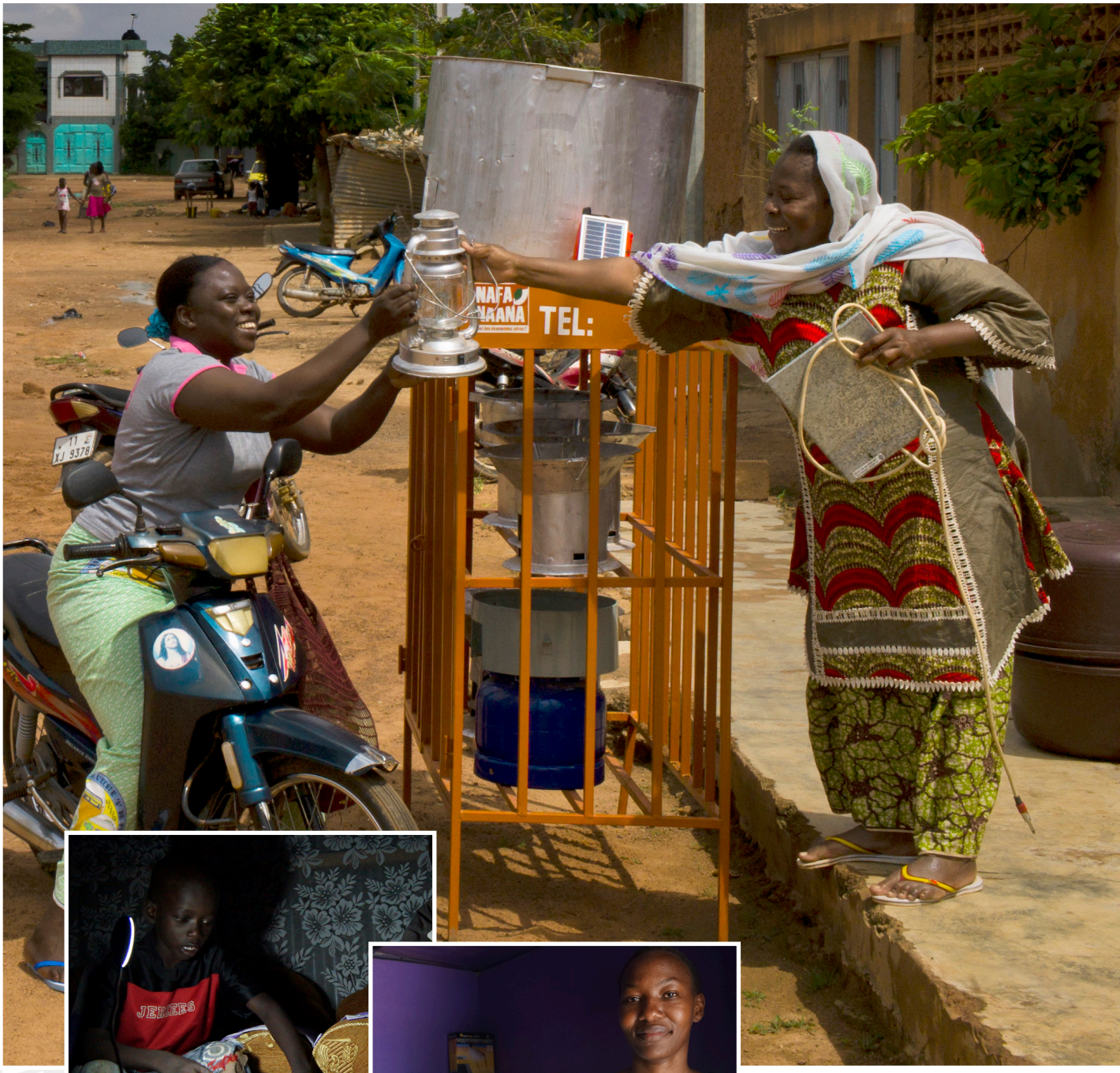

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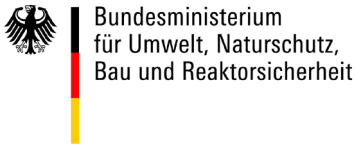

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Acknowledgments

This study has been commissioned by the United Nations Environment Programme's (UNEP) Danish Technical University Partnership (UDP). UDP has received financial support from the methodology development support component of the African Carbon Asset Development (ACAD) Facility supported by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) as part of the International Climate Initiative (ICI).

The text has been reviewed by Françoise d'Estais, UNEP DTIE, Søren E. Lütken, UNEP DTU Partnership, and Peter Vilhelm Scharling, EnviroDev.

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Executive Summary

Building a NAMA concept on previously existing Clean Development Mechanism (CDM) Programmes of Activities (PoAs) or designing a NAMA to create an enabling environment for future PoAs are two innovative approaches to NAMA design, both based on a linking of the PoA and NAMA concept. Such linking increasingly draws attention as potentially attractive approaches for developing practical NAMAs. Although parallels have been drawn between sector-oriented PoAs and the NAMA concept, key issues must be addressed in order to ensure environmental integrity and other positive environmental and social outcomes in case of their coexistence, while preserving legal security and investment predictability for the private sector. While this brief conceptual report is based on two previous studies that examined a practical case in which a PoA-NAMA linkage is envisaged, the points raised and discussed in this report are more fundamental and seek to generally identify efficient and feasible pathways to PoA NAMA coexistence with high environmental integrity.

Given the possible conflicts between PoA and NAMA activities, issues such as the attribution of emission reduction credits, avoiding double counting, and designing proper incentive structures are complex. We have identified a number of questions regarding design options to address these critical issues and discuss advantages and disadvantages of particular approaches. These comprise the appropriate allocation of emissions reductions, financing schemes to create the right incentives, institutional responsibilities, and technical aspects of measuring, reporting and verification (MRV) emission reductions, with a focus on their legal dimensions. This assessment shows that practical solutions for linking PoA and NAMA activities and policies can be found, even though more work needs to be done.

The report is written from the perspective of a stakes-free observer seeking to maximize mitigation and sustainable development impacts on the basis of cost-effectiveness and pragmatism.

March 2015

Content

Abbreviations

BUR	Biennial Update Report
CDM	Clean Development Mechanism
CER	Certified Emissions Reductions
CME	Coordinating and Managing Entity
CO2	Carbon Dioxide
CO2e	Carbon Dioxide equivalents
COP	Conference of the Parties
CPA	Component Project Activity
DD	(PoA) Design Document
DNA	Designated National Authority
DOE	Designated Operational Entity
ER	Emission Reduction
ERPA	Emission Reduction Purchase Agreement
FVA	Framework for Various Approaches
GHG	Greenhouse Gas
INDC	Intended Nationally Determined Contributions
IPCC	Intergovernmental Panel on Climate Change
JCM	Japanese joint Crediting Mechanism
KP	Kyoto Protocol
GS	Gold Standard
LDC	Least Developed Countries
MRV	Measuring Reporting and Verification
NAMA	Nationally Appropriate Mitigation Action
NGO	Non-governmental Organization
NMM	New Market Mechanism
ODA	Official Development Assistance
PAF	Pilot Auction Facility
PBF	Performance Based Financing Scheme
PoA	Programme of Activities
PPP	Public-Private-Partnerships
SD	Sustainable Development
SLCF	Short-lived climate forcers
tCO2	Metric ton of CO2
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard

1. General introduction to linkages between PoAs and NAMAs

The increasingly fragmented architecture of the global climate regime comprises a broader range of mitigation policy instruments than the Kyoto Protocol (KP). Nationally Appropriate Mitigation Actions (NAMAs) currently remain loosely defined and may encompass activities from the project to the policy level. This grants NAMAs greater flexibility to unlock mitigation effects across entire sectors, e.g. by using a broader range of regulatory measures or financial incentives compared to the project-by-project approach of the traditional Clean Development Mechanism (CDM). While the requirement for NAMAs to be "nationally appropriate" has resulted in a lack of a stringent global regulatory framework and clearly distinguishes it from activities under the CDM, important parallels can be drawn between CDM PoAs and the NAMA concept. Like NAMAs, PoAs present a framework for mitigation activities that can be scaled across an entire sector, even across multiple countries. As such, existing PoAs could be seen as stepping-stones for bottom up NAMA development. This could be done either by scaling up a PoA to a sector-wide NAMA by adding more CPAs, or by "nesting" registered PoAs in a NAMA. The reverse is also possible: a NAMA may be developed in a sector in which there are no existing PoAs seeking to create an enabling environment for PoA development.

Linking the two instruments can unlock synergies to facilitate their implementation: NAMAs can benefit from the comprehensive existing methodological framework of the CDM's tested monitoring, reporting, and verification (MRV) procedures, which can enhance the results-orientation of the NAMA. Given the currently very limited NAMA financing, another benefit might potentially lie in the – albeit currently limited – Certified Emissions Reductions (CER) revenues in particular if a functioning compliance carbon market is restored. PoAs on the other hand could benefit from linking up with NAMAs: they could be complemented with the more flexible regulatory approach that NAMAs provide, benefit from capacity building support foreseen in the NAMA development and implementation process, and from increased international visibility. The latter could in particular help to unlock access to complementary sources of finance. However, coexistence of the two also presents distinct technical and legal challenges.

The currently very low CER prices are expected to remain in place unless a stronger level of mitigation ambition creates more demand, new sources of demand are created – such as the Pilot Auction Facility (PAF) or new uses for CERs can be operationalized, e.g. for strengthening results-based approaches to climate finance in the Green Climate Fund.

Legally, the CDM is governed by international law, and implemented on a voluntary basis by developing countries, which can authorize private or public entities to participate but Annex I countries remain responsible of the fulfilment of their mitigation commitments under the Kyoto Protocol. The international legal framework on NAMAs does not create any legal obligations for developing countries. Rather, it offers an opportunity to create international recognition and support for mitigation efforts in developing countries. This means that host countries have a great margin to formulate NAMAs in order to enhance emission reductions at the domestic level. However, the international legal framework does not say how to articulate NAMAs given existing mitigation activities, whether eligible under the CDM or not.

The current situation thus results in a number of legal challenges when linking CDM and NAMA activities, particularly with respect to the accounting and crediting of Emission Reductions (ER), ownership of emissions reductions rights and, consequently, potential conflicts between PoA and NAMA actors.

Accounting and crediting of ERs under the CDM is governed by international law, whereas ERs generated through NAMAs may be accounted for only by host countries and cannot be credited yet, except if done in accordance with standards of the voluntary carbon market. Linking CDM to NAMA raises the key question of who can claim benefits from mitigation activities and for what reason, having in mind that they are initiated and implemented by different actors. In relation to the allocation of ER, the answer lies with the issue of entitlement to ERs and ownership of carbon rights, whether certified by carbon credits or not. Depending on the approach taken for the allocation of emission reductions, potential conflicts may arise between PoA and NAMA actors, including CER buyers and NAMA financiers, unless proper accounting rules are put in place at national level, in particular to prevent double counting of emission reductions. Such potential conflicts should be anticipated broadly in order to cover not only disputes on the distribution of expected outcomes of the PoA and NAMA activities in terms of carbon benefits but also on related business opportunities, including obstacles for the further development of mitigation policies and measures, including projects and programmes.

2. PoA-NAMA linkage scenarios

2.1. Introduction of a NAMA based on / in parallel to previously existing PoA

As activities that could in theory cover entire sectors and are thus conducive to upscaling, ongoing PoAs can be a logical precursor to a NAMA. As discussed, registered PoAs could be integrated into a broader NAMA and further scaled up through the addition of Components Project Activities (CPAs) over time. On one hand, such a PoA to NAMA approach is attractive as it builds on established procedures and know-how as well as readily available MRV methodologies, allowing for a streamlined NAMA GHG MRV design. However, linking an offset mechanism (CDM) with NAMAs, which are generally expected to achieve net mitigation, clearly raises the challenge of preventing double counting of emission reductions, in particular through regulatory measures. What's more, NAMAs are developed under the responsibility of host country governments whereas PoAs under the CDM are developed by Coordinating and Managing Entities (CMEs), which although they can be public entities, are typically private investors incentivized by CER revenue cash flows. Therefore, the issue of ownership and financial flows poses serious challenges towards the objective of maintaining appropriate incentive structures. The specific challenge related to PoAs is that CPAs may be included over a period of time, which is the underlying motivation for PoAs compared to normal CDM activities.

There are two principal options for how ownership of ERs can be allocated (see also section 4.1).

a) The ownership of ERs within CDM scope is fully or partially with the host country government (the NAMA entity): either by continuously buying CERs as they accrue to private sector PoA owners or by a transfer of PoA ownership itself.

b) Both PoA and CER ownership remains with the PoA owner, in which case the regulator needs to consider the effect of introducing the NAMA on the additionality determination of the ongoing PoA activities as well as the host country governments' interest and efforts in NAMA implementation, because, in such case, the host country government could not claim the emissions reductions accruing through ongoing PoA activities.

There are two challenges associated with introducing a NAMA to previously existing PoA activities in the same sector: Firstly, double counting of emissions reductions must be avoided since ERs cannot be accounted for twice – as traded CERs as well as in form of emissions reductions from the NAMA. Secondly, the revenue stream of selling CERs by ongoing PoA activities on the international market has to be taken into account in the incentive structures of PoA owners to not water down the additionality of their activities.

Under this scenario, the fact that CDM activities existed before the launch of the NAMA should be taken into consideration from a legal viewpoint. As a matter of domestic law, CDM proponents may have vested interests, which could make the carbon rights created by the CDM to be recognized in priority as compared to ERs to be generated through the incoming NAMA coverage. Implementation of the CDM creates rights and obligations for both the government and project participants, which are reflected by a series of documents such as the Letter of Approval, contractual arrangements for PoA implementation, Emission Reductions Purchase Agreement (ERPA). These documents are usually governed by domestic law, which must be complied with, otherwise project participants and/or CER buyers may claim compensation for losses resulting from the material impossibility to transfer the expected CERs. The current situation thus results in a number of legal challenges when linking CDM and NAMA activities, particularly with respect to the accounting and crediting of ERs, ownership of emissions reductions rights and, consequently, potential conflicts between PoA and NAMA actors.

Accounting and crediting of ERs under the CDM is governed by international law, whereas ERs generated through NAMAs may be accounted for only by host countries and cannot be credited yet, except if done in accordance with standards of the voluntary carbon market. Linking CDM to NAMA raises the key question of who can claim benefits from mitigation activities and for what reason, having in mind that they are initiated and implemented by different actors. In relation to the allocation of ER, the answer lies with the issue of entitlement to emission reductions (ERs) and ownership of carbon rights, whether certified by carbon credits or not. Depending on the approach taken for the allocation of emission reductions, potential conflicts may arise between PoA and NAMA actors, including CER buyers and NAMA financiers, unless proper accounting rules are put in place at national level, in particular to prevent double counting of emission reductions. Such potential conflicts should be anticipated broadly in order to cover not only disputes on the distribution of expected outcomes of the PoA and NAMA activities in terms of carbon benefits but also on related business opportunities, including obstacles for the further development of mitigation policies and measures, including projects and programmes.

2.2. Development of a NAMA, with potential for subsequent PoA implementation

A fundamentally different approach is to develop a NAMA in a sector in which there has been no PoA activity – aiming instead to provide an attractive environment and robust legal framework for PoA development. In a sense, this scenario can be compared to government-developed PoAs that already have a large number of CPAs, such as in the case of the Solar Water Heater PoA in Tunisia. Given that there are no internationally accepted definitions of NAMAs, compatibility of a PoA within a NAMA requires the host country to establish an appropriate MRV system, crediting procedure and rules for additionality – essentially providing the regulatory framework to give confidence to potential PoA developers.

From the viewpoint of PoA developers, the strong benefit of developing a NAMA aiming to create an enabling environment for PoAs is that the subsequent activities can be "anticipated" and that reliable conditions for investments are created. In order to reduce dependency on the CDM market over time, a gradual transfer of emissions reductions in form of CERs to NAMA ERs could be envisaged, and needs to be defined ex-ante to provide for a reliable environment.

From a climate policy and a legal standpoint the crucial question is how the additionality determination of PoAs (see also section 5.3) is affected by the NAMA – whether the NAMA is designed appropriately so that the revenue from CERs in fact does generate additional emissions reductions.

A practical challenge lies in the question how the NAMA design can appropriately allow for competition, while at the same time ensuring high quality implementation by private sector actors in order to provide the expected sustainable development benefits expected from NAMA implementation.

Therefore, from a legal viewpoint, the main challenge is to provide a sound regulatory framework articulating NAMA implementation with CDM activities in a way that maximizes synergies in terms of mitigation potential while preserving incentives for getting international support from both private and public finance sources. Such a regulatory framework should be designed by taking account of legal obligations of the government under international law, in particular in the case of supported NAMAs of the States' responsibility under the Kyoto Protocol if CDM activities involve authorized private and public entities, i.e. the boundaries of a CDM activity should be accounted for and excluded from the NAMA in order to prevent double counting.

3. Potential conflicts between various interests and legal difficulties

3.1. Political challenges

NAMAs are defined under the Bali Action Plan as "nationally appropriate mitigation actions […] in the context of sustainable development, supported and enabled by technology, financing and capacity building, in a measurable, reportable and verifiable manner." Thus the key challenges posed by the coexistence of PoA and NAMA are the following:

- The emphasis on host-country ownership introduces an additional stakeholder to PoA projects, namely the government, potentially with contradictory interests to the PoA developer
- NAMAs are expected to result in net mitigation by the host-country whereas PoAs were historically an offset mechanism; it is vital then that emissions reductions are not counted both towards the CER buyer and as mitigation under the NAMA concept
- The primary goal of PoAs is GHG reductions whereas in a NAMA, these may come secondary to sustainable development objectives
- Support for NAMAs may hinge on certain conditions (e.g. development or mitigation criteria). The MRV system will thus need to reflect these requirements.

3.2. New interests around the table

The stakeholder structure of a NAMA and a PoA is clearly different from one another. When combining both there is a larger number of bodies which is likely involved in its design and implementation, and each will pursue its own interests, potentially complicating the process:

- Designated National Authorities (DNA) for the CDM are likely to use the development of new instruments to reaffirm their role and standing as a regulatory authority of mitigation activities
- The Ministry of Finance (which is for instance likely to enforce financial reporting of the NAMA in line with its own reporting practices)
- The Ministry of Planning or other Ministries in charge of the respective sector or sectors affected by the NAMA will seek to maximize the sustainable development co-benefits and try to gain as much credit as possible among the population
- (If existing) whatever financial institution is in charge of allocating ODA funds to particular activities domestically
- The UNFCCC national focal point, which is often located at the Ministry of the Environment. The focal point will be concerned to gain full information and credible reporting of emissions reductions and sustainable development co-benefits from the NAMA
- The National NAMA coordinator, if different from the UNFCCC focal point
- International NAMA financiers will seek to gain as much credit for their funding of NAMA activities as possible – potentially at the expense of a clear attribution of emissions reductions to either NAMA ERs or CERs

- CER buyers have been buying certain CERs substantially above market price and are likely to continue to pick high-quality CDM projects and might be deterred from mixed PoA-NAMA approaches if double counting and additionality is not addressed in the most transparent manner possible
- Private (or public) sector PoA developers and CMEs will seek to maximize the benefits they can get from accompanying measures in the NAMA design (e.g. favorable regulatory environment, MRV support etc.). However they will also need to protect confidential information such as pricing, a reliable environment for investments in the long-run yielding attractive returns.

The attribution of emissions reductions being a particularly thorny aspect it is important to clarify it early on. The following entities may want to claim entitlement to emissions reductions:

- The PoA developer
- The host country government might want to claim the ERs towards their Nationally Determined Contributions – an element which will likely gain more weight towards implementation of the 2015 agreement by 2020
- The buyer of CERs from the PoAs "nested" in the NAMA
- The government of the country (or non-governmental institution) supporting the NAMA.

The latter could in particular be the case if in the future crediting of NAMAs becomes possible under the New Market Mechanism (NMM) or the Framework for Various Approaches (FVA). In case of the Japanese Joint Crediting Mechanism (JCM) the Government of Japan has for instance stipulated that emissions reductions from activities under the JCM should accrue both to Japan and the host country.

3.3. Legal challenges

Legal challenges lie with policy coherence but also potential conflicts between CDM and NAMA proponents. There may be disputes about the distribution of expected outcomes of the PoA and NAMA activities in terms of carbon benefits (entitlement to emission reductions and ownership of carbon rights, distribution of revenues and financial support). In the alternative, the joint implementation of CDM and NAMA activities may affect negatively business mitigation opportunities in the future.

A number of legal risks can be envisaged, but this report focuses on four generic potential conflicts involving essentially the host country government and CDM and NAMA proponents, including buyers and financiers.

The 'nationalization' of the emissions reduction resource

Legally speaking, "nationalization" refers to an arbitrary process of a government taking control of a company, an industry, lands or resources originally privately owned. When nationalization occurs, the former owners of the companies/industrial installations/resources may or may not be compensated for their loss in net worth and potential income. Reasons to nationalize may include the preservation of natural resources or the protection of land use and tenure rights. Unless provided otherwise in a specific manner by national law with respect to CERs generated through the CDM, this legal risk is very unlikely to materialize because it would have a deterrent effect on both international cooperation and foreign direct investment for the support of mitigation activities.

Similarly to nationalization, another risk lies with the possible expropriation of ERs or carbon titles in the public interest. Again, this risk is rather limited in most developing countries. In any case, such expropriation would need to be justified on the ground that is carried out "in the public interest", and it should normally entail a just compensation for those who have been taken private property, for instance owners of legal title on CERs or ERs. In addition, expropriation is usually allowed to transfer tangible goods or assets to public property in the name of public interest, and one may argue that carbon credits are intangible assets, which cannot be subject to expropriation.

Consequently, any future legislation or statutory instrument on NAMAs should take into consideration the Letter of Approval issued by the DNA to the PoA Coordinator, which entitles the latter to give instructions to the CDM Executive Board for the delivery of CERs to PoA proponents, unless already provided otherwise by domestic law.

The claim by a NAMA financier that what he financed is being sold off as CERs by other parties

Such a potential conflict may arise in the event the NAMA financier expects recognition of its support either in terms of climate finance or in terms of ERs to comply with its mitigation commitments or pledges. This is a double counting issue, where ERs generated thanks to the support provided by the NAMA financier would be sold to a third party to offset its own emissions, with the host country getting financial support through the NAMA approach as well as the benefits from the sale of CERs on the carbon markets if the PoA is fully integrated into the NAMA. This risk does not exist for buyers of CDM credits, to whom credits are transferred through the CDM registry. This is not the case yet for financial support provided to NAMAs, which is accounted for against financial commitments of developed country Parties listed in Annex II to the UNFCCC in accordance with implementing modalities of article 4 §7 of the UNFCCC.

In the future, the same risk of double counting may arise in the event that both the NAMA financier and the developing country implementing the NAMAs would account for the same ERs against their respective national emissions reduction pledges, if the pledge and review approach becomes effective and the role of developing countries Nationally Determined Contributions becomes more important in the international climate regime.

ERs generated through NAMAs are not accounted for at the international level yet, except through voluntary carbon standards where applicable. Therefore, in the shorter term, accounting for ERs from NAMAs could only be provided by either a bilateral (mutual recognition) agreement concluded between the host country government and the NAMA financier if it is a State or a governmental entity from a third country, or through contractual arrangements, if the NAMA financier is a private entity, however with no assurance that such arrangements would be valid after 2020. For those reasons, this risk is very unlikely to materialize in the short or even mid term, unless the Paris Agreement provides for clear positive signals to do so for after 2020.

The claim by a PoA owner that he is being prevented from developing his business

In this case, the PoA "owner" (i.e. CME) would not be able to develop further its business because ERs would be accounted for the NAMA, not any longer under the PoA. There is a risk for the PoA owner to be prevented from developing his business even if double counting is avoided for existing CPAs, to the extent that the NAMA would limit the PoA coverage and prevent its expansion through the inclusion of new CPAs over time until the end of the crediting period. In effect, one can argue that, when issuing a Letter of Approval of a PoA, the host country DNA knows that more CPAs are likely to be included in the future by the PoA "owner".

This is a matter of tort liability, to be dealt with according to domestic administrative law if the Letter of Approval of the PoA issued by the DNA can be regarded as an administrative authorization. If so, the PoA owner may seek compensation before the national judge for the loss of business opportunities caused by this change in policy if reflected by national law, arguing that CDM activities should be grandfathered. He would have to demonstrate evidence that the switch from PoA to NAMAs has caused a prejudice for his own business. The fact that a NAMA does not create a legal obligation under international law for the government would be an additional argument to support the view that this policy change could not be legitimately expected by the PoA owner.

The claim by a CER buyer that his purchase is being devalued due to disputes regarding double counting

If double counting is not avoided, there is a real market risk for the CER buyer that his purchase would be devaluated in case of disputes regarding the allocation of ERs. In effect, there would be no demand for credits certifying emission reductions that would be counted twice, which could put the CER buyer at serious compliance risks.

The only robust solution to prevent such risk to occur is to prevent double counting of ERs. In the absence of guidance or accounting requirements in the international legal framework, it should be the responsibility of the government developing NAMAs to find proper ways to address this risk: in the short-term, the best solution would be to not prevent the issuance of CERs, which can therefore by transferred to the CER buyer, while ensuring that PoA owner deduct those issued CERs which can be attributed to the NAMA.

If double counting cannot be avoided, it is before all a matter of contract liability. The CER buyer would have no other solution to suit the CER seller, for instance the PoA CME, either before the national judge or through arbitration depending on the liability and dispute settlement clauses laid down by the Emission Reduction Purchase Agreements (ERPA), with the view to getting compensation for losses resulting at least from the difference between the purchase price and the expected market price for double counted emissions, i.e. close to zero. Actually the CER buyer would be entitled to terminate the contract on the ground that double counting is equivalent to a default of delivery, and to seek compensation for both pecuniary and non-pecuniary (reputational) damages caused by double counting.

Then, the CER seller would be himself entitled to pursue remedies against the government on the ground of tort liability before the national administrative judge for the loss of business opportunity to sell the credits because of double counting.

The claim by prospective mitigation technology buyers that they are being deprived of attractive offers due to a less profitable NAMA offer

Such claim would be justified for mitigation technology buyers that would have been involved in the PoA only, in as far as they may argue that they suffer an economic injury from a change of policy leading to an arbitrary switch from a private initiative in to which they adhered to on a voluntary basis, i.e. the PoA, to a public policy, i.e. the NAMA, eliminating the conditions to buy such technologies at lower prices.

However, a number of factors should be taken into consideration to assess the chance that this risk can materialize:

- whether mitigation technology buyers have been allocated carbon rights through the PoA contractual arrangements
- the unit price of CERs sold to CER buyers
- the difference between the unit price of CERs sold and the financial compensation offered to CPA proponents to use the mitigation technology through the PoA contractual arrangements
- whether double counting of ERs can be prevented between the PoA and the NAMA and the impact on the purchase price of the mitigation technology
- the way the NAMA, which is assumed to be “less profitable”, is financed by the government.

However, given all these factors to consider, it may prove quite difficult from a legal viewpoint for technology buyers to get compensation for losses resulting from changes in policy and/or legislation that would make the technology less attractive for themselves.

4. Design options to address difficulties

4.1. Solutions for accounting emissions reductions

A key challenge in the coexistence of PoAs and NAMAs is avoiding double-counting of emissions reductions in order to preserve the environmental integrity of the mitigation activity. As previously mentioned, several stakeholders may wish to claim ownership of the emissions reductions.

In the simplest scenario, double-counting can be avoided when there is no overlap between the boundaries of a PoA and NAMA, with each generating emissions reductions independently. However, often a distinct division of accountability is either not possible – given that NAMA finance is likely to come from a "blend" of operational cash flows for service provision from public and possibly private sources, as well as CER revenues– or undesirable as it may fail to capture synergies between the two mechanisms. Additionally, forcing a complete separation of PoAs and NAMAs may introduce deterrents to NAMA development in sectors in which there are already registered PoAs. Therefore, we examine the possible emissions reductions accounting options for the two linkage scenarios outlined in section 3.

4.1.1. Accounting emissions reductions for a PoA to NAMA approach

In the case of a previously existing PoA being included in the design of a new NAMA, the host country government may obtain ownership of the PoA emissions reductions if:

- The host country government buys CERs from the PoA developer, or
- The PoA developer grants the host country government ownership of the resulting CERs, which could then be attributable to the NAMA. The host country could account for these in its Intended Nationally Determined Contribution (INDC) or offer an international NAMA financier emissions reductions achieved through these activities.

Alternatively, the CME of each PoA may retain ownership of emissions reductions and CER revenue. In this case of registered PoAs "nested" within a NAMA, the NAMA designer will need to take measures to avoid double counting. Applied to this situation, the key question is that the same ton of ER is not accounted both under the CDM and the NAMA. Such measures could involve:

- Only counting mitigation effects not covered by the CDM (e.g. short-lived climate forcers or land-use related carbon sinks) towards NAMA emissions reductions
- Transfer of a share of emissions reductions (CERs or CER revenues) to the NAMA.

Such a transfer could both be done ex-post, ex-ante or even take the form of a "NAMA tax" as compensation for the benefits that a PoA would receive from the enabling environment created by a NAMA framework. Ideally, attribution should be based on a demonstration of the causal relationship between NAMA activities (which should include enabling and administrative activities) and the mitigation effect resulting from the entire NAMA. Allocating ERs based on resulting emissions reductions only, would result in greater credibility. However such an approach will run into difficulties since enabling activities – which are required for most NAMAs – are essential and do thus not directly generate ERs. In a more refined approach to

attributing emissions reductions to different activities, one should thus aim to strike a balance between attribution according to physical emissions reductions and a merit-based attribution that gives substantial weight to enabling activities.

In order to simplify accounting, allocation of emissions reductions and financing, the accounting period should be compatible between the NAMA and the crediting period of the PoAs included. Demonstration of a causal relationship between the activities and attributed emissions reductions should be established via a detailed NAMA project idea note (PIN). This would provide the basis for approaching prospective supporters of the NAMA and more generally presenting the NAMA idea to the international public.

- Conclusions from a legal view point: Need to regulate modalities to transfer in full or part of CERs and ownership of associated carbon rights in domestic law, whether arranged by contracts (e.g. through ERPA) or in a more authoritarian manner (e.g. levy).

4.1.2. Accounting emissions reductions in a NAMA with PoA component

Attribution of emissions reductions ownership is simpler in this case: whoever is the PoA developer – public or private – is the primary owner of emissions reductions. Considerations, however, have to go into appropriate NAMA design, which needs to be done in a way that PoAs to be established subsequently can still demonstrate additionality. In case where the mitigation activities consist purely of private sector PoA developers' activities, the main problem will be the fact, that the NAMA – representing merely the enabling environment for PoA implementation – does not in itself generate emissions reductions, but can only claim ERs from activities or GHGs which are not within the scope of the CDM activities.

- Conclusions from a legal viewpoint: Need to regulate NAMA implementing modalities to address additionality concerns and to formally recognize carbon rights for the benefit of the PoA developer.

4.2. NAMA MRV solutions

In contrast to a PoA, a NAMA MRV system may be more flexibly defined by the implementing country to place, on top of traditional GHG mitigation determination, an additional emphasis on the MRV of sustainable development impacts and financial reporting.

For the GHG reduction determination, a NAMA MRV system could benefit from the integration of PoAs. In effect, existing PoA or CDM methodologies could serve as a "building block" for the NAMA MRV system (e.g. conservative default values offered by existing methodologies could reduce monitoring efforts and costs under a NAMA) while in the case of a NAMA with a PoA component, the PoA can develop a baseline based on the NAMA target. In the case when "nested" PoAs are already operating a verification system (involving Designated Operational Entities (DOEs)), verification can be directly applied to the NAMA as a whole, thus streamlining efforts required for setting up an MRV structure.

While determination of GHG reductions lies at the core of the NAMA MRV system, reporting and verification of sustainable development benefits will also be important for ensuring alignment with the sustainable development agenda of the host-country while generating political acceptance and financial support of the NAMA concept.

Compared to CDM PoAs, NAMAs will have different ownership and responsibilities structure, with a stronger role for the government in terms of design. Consequently there will be different incentives and possibilities for stakeholders for them to contribute to the MRV of GHG emissions.

The NAMA MRV system will therefore have to put a stronger focus on clarifying the respective roles and responsibilities of institutions involved in the NAMA and its MRV framework. This could be done either through regulatory measures or via memoranda of understanding signed with NAMA stakeholders, including PoA proponents. These will notably have to clarify responsibilities respectively for:

- Operating the NAMA
- Monitoring, reporting and verifying specific data
- Information collection in case of information gathered by other parties
- Providing information to other entities and establishing and maintaining information platforms.

The latter is particularly important since the information requirements of NAMAs on the international level are different than those of PoAs. Notably the following aspects need to be considered with respect to an information platform:

- The required information for preparation of biennial update reports to the UNFCCC needs to be there
- The necessary infrastructure for the collection and sharing of data needs to be established.

Expectations regarding MRV data provision will vary between different viewpoints, for the CDM Executive Board for instance representing a strict ton-by-ton carbon accounting approach, while prospective NAMA financiers may have different expectations, possibly with less stringency on carbon accounting. However, CMEs will have to comply with CDM/PoA MRV requirements, whereas the corresponding legal requirements in NAMAs may be different, especially in a unilateral NAMA (as opposed to a supported NAMA). In this case the host country government may adapt the national MRV system in order to allow the integration of PoAs even in the absence of specific, internationally agreed MRV requirements.

In order to account for the most important considerations, the MRV design should follow certain principles as a rule of thumb:

- Where comprehensive sampling is not appropriate due to prohibitively high costs, conservative default values offered by existing methodologies can be used. Wherever there are several approaches for the same problem primarily one can make use of the approach applied under the registered PoA with UNFCCC-approved methodologies if applicable. Alternatively, a more stringent approach should be applied, unless this results in a grave limitation of the NAMA reach.
- Sustainable development benefits should be measured, reported and verified as appropriate since they may be important politically both on the domestic as well as the international level to gain recognition. To enhance credibility towards the UNFCCC and domestically, such assessments should follow the sustainable development criteria established by the host country government in context of CDM implementation by its DNA or an updated version thereof. The government may also be inspired by the on-going discussion on co-benefits in the REDD+ context, but also by indicators to be developed for measuring Sustainable Development Goals for the post-2015 agenda in the follow up of the Rio + 20 Summit.
- Responsibilities for data collection should be attributed following the rationale of minimizing cost and efforts. Data identified as relevant for the NAMA MRV, which is already being collected (including for other purposes) should be utilized.
- Formally NAMAs do not need verification, but in practice, verification can make them more attractive to financiers. For this purpose, one can use the CDM verification procedure as basis for the verification of the NAMA as a whole. As long as the PoAs nested in the NAMA are verified and make up for the full emissions reductions of the NAMA, their verification is directly applicable to the NAMA as a whole. For a more transparent solution, one could envisage a separate verification by a third-party auditor, e.g. to hire a CDM-accredited verifier to verify the full NAMA according to CDM standards. A less onerous method would be to use government audit processes.

• Conclusions from a legal viewpoint: MRV requirements for PoA under the CDM do not need to be transposed in national law, they primarily apply to the PoA proponents under the responsibility of the CME. Compliance with such internationally agreed MRV requirements is ensured by the CDM Executive Board on the basis of reports prepared by Designated Operational Entities, having in mind that the latter may be held liable in case they fail to control the proper implementation of such MRV requirements.

4.3. Fixing additionality determination

Emissions reductions that are credited under the CDM have to be additional, meaning they would not occur in the absence of the project or the programme, which can overcome investment barriers thanks to financial revenues obtained from the sale of CERs. In case of nesting an existing PoA under a NAMA, policies or measures that facilitate future or ongoing PoA activities may have to be considered in the CDM additionality determination, as additionality is determined both at PoA level and CPA level, i.e. every time a CPA is included. If CDM additionality was to be treated differently in context of integration into NAMAs, this would represent a fundamental departure from its current role as an offset mechanism and would require decision by the COP in context of a reform of the CDM. Alternatively additionality determination could remain the same if the government charged PoA developers for the benefits accruing from enabling measures. This could be done by levying a "NAMA tax" on PoA projects – a certain share of CERs in return for the support offered. Such a contract is similar to the China CDM Fund, a revolving fund that collects revenues from ongoing CDM projects and invests these in programs designed to leverage private sector investments. This "NAMA tax" would not only require agreement between public and private partners on such a transfer of finances and responsibilities, but its level would also need to be chosen carefully so as not to deter private sector investment or lower the funds available for the sound implementation of activities.

In contrast, a NAMA has no formal additionality obligation but rather should demonstrate a deviation from a baseline emissions scenario. Thus, in the case when the NAMA is the predecessor, the PoA would likely benefit given that a business as usual scenario would already have been determined for the sector.

- Conclusions from a legal viewpoint: in both cases, the government should clarify, for example through non legally binding guidelines, the way to determine the baseline for a NAMA in a manner that is consistent with international law requirements, in particular for the determination of additionality for PoA under the CDM. Such baseline determination may be difficult to establish and quantify for some types of NAMAs. In these cases, it may be neither practically possible nor fair to fix the level of the NAMA tax in an arbitrary manner. For that particular reason, the NAMA tax may be negotiated on a case by case basis between the PoA proponents and the NAMA competent governmental authority and settled through contractual arrangements. Legally speaking, the NAMA tax would then take the form of a kind of (success) "fee". This would give some flexibility to PoA proponents and NAMAs financiers to discuss the best way forward. For the sake of legal security, such prerogative to negotiate (or to have the right to negotiate) should be inscribed into domestic law.

4.4. Solutions on designing appropriate incentive structures

In view of all of the above, the NAMA design should aim to establish an appropriate incentive structure by considering implications from linking the PoA and NAMA concepts. For instance if a more stringent baseline has to be applied under NAMA implementation than in a previous situation including only PoA activities, the marginal costs of abatement become slightly higher and thus less attractive for PoA developers. This should be counteracted via supportive measures contained within the NAMA design.

The design should take into consideration all potential revenues including from commercial activities of PoA developers but excluding CER revenue. Other potential financing sources are sales of emission credits, grants, as the NAMA Facility. Also all financing related costs should be considered i.e. interest payments and opportunity cost of capital (commercial debt, concessional loans).

To appropriately finance NAMA activities all revenue sources could be lumped together in a finance vehicle which then reallocates financing streams according to pre-defined principles adequately paying for initial investments, enabling activities, MRV activities and activities directly generating non-CER emissions reductions.

For compatibility of financial planning and evaluation between efforts within both, also a common discount rate should be agreed ex ante.

In order to cover certain investments and to reduce investors' uncertainty, ex-ante payments could complement ex-post results-based payments. CERs that are not sold as offsets but retired in a cancellation account can be used as a unit to measure the mitigation impact of results-based payments to close the gap between costs and revenues and thus allow private companies to make a sufficiently attractive profit considering the financial risk they have taken.

In case of ex-ante payments, private sector actions and investments should result in repaying at the very minimum the incurred total costs plus a profit margin that is reasonable in the respective context. It is important to note that in many circumstances a simple break even will not provide for sufficient incentives for substantive private sector involvement due to substantial investment risks. A general approach can be centred around risk minimization to the private sector partners in order to maintain sufficient attractiveness for large scale private sector investments – going beyond pilot projects. Uncertain revenues (e.g. if dependent on traded CER prices) are therefore to be considered with a risk premium in the overall finance consideration.

Administrative costs of public or private stakeholders are primarily staff related and can relatively easily be estimated given the respective salary levels and estimations of annual working days. In case of costs accruing to government agencies one needs to define whether these costs constitute a contribution by the host country government, or whether the government needs to reclaim NAMA funds to cover these costs. In this context one may want to take into account that there may be costs associated to the introduction of policy instruments, the maintenance of stakeholder processes, and implementing MRV as well as continuous costs of administering policy instruments such as quality control and certification systems.

Given the uncertain market situation for the CDM, the design should consider ways to allow for a gradual transfer from generating CERs to generating non-CER NAMA emissions reductions. This could be done by CMEs, which would gradually incorporate greater shares of activities into the NAMA by unregistering their PoA or selling generated CERs to the NAMA operating entity. For this to be feasible it is important that the MRV approach among all the PoAs as well as for NAMA ERs is compatible.

- Conclusions from a legal viewpoint: The host country government should provide policy guidance on which incentive structure it believes is the most appropriate to support mitigation activities, in taking account of its national evolving circumstances, before and after 2020. This would reassure carbon market players and NAMA financiers about the intention and capacity of the host country to use market based instruments. In addition, the host country government should develop an enabling legal framework, with a particular focus on the allocation of carbon benefits and distribution mechanisms and/or clear allocation of carbon rights through the various instruments made available by the international climate regime and/or regional/national cooperation initiatives using market based instruments for mitigation purposes. REDD+ legislation may inspire a number of developing countries from that perspective. This enabling regulatory framework should describe in concrete statutory measures in order to reassure investors that the overall objective to maintain the right incentive structures over time.

5. Outlook on possible future developments

To which extent the concepts and design options for linking CDM PoAs and NAMAs discussed above will actually be taken up and implemented depends to a large extent on political decisions that are currently being negotiated. There is an ongoing debate in the UNFCCC negotiations on whether a reformed CDM will be included in the legal architecture of the new climate agreement. In addition, the future relevance of NAMAs to MRV the mitigation commitments and contributions by developing country Parties is also still uncertain.

The annex to the Lima Call for Climate Action (UNFCCC 2014a) comprises "elements for a draft negotiating text" of the 2015 Agreement, including numerous references to the existing KP mechanisms, in particular the CDM and thus also PoAs, ensuring that provisions for markets and accounting are well represented in the document adopted as proposed basis for negotiation. This is a strong indication that key countries envision a future role for market-based instruments, including a reformed CDM. Critical questions for its political acceptability include that Parties recognize the benefits of CDM reforms that have already been achieved, including the potential for scaling up mitigation action through PoAs and further standardization that safeguards environmental integrity. In addition, a key reform demand that needs to be addressed further is how net mitigation impacts of CDM activities can be strengthened, as all Parties are expected to contribute to more ambitious climate action. Multiple options exist from linking market mechanisms to climate finance by purchasing and cancelling CERs to further-reaching methodological innovations or even isolating entire technologies e.g. for destroying high global warming impact industrial gases from the CDM. The ongoing revision of its modalities and procedures as part of the formal 2013-2015 review of the KP institutions may already offer some clarity, but has again been deferred at least until June 2015. It is very likely though, that this issue will only be decided as part of a larger package in the new climate agreement in the classic "nothing is agreed until everything is agreed" UNFCCC fashion. The agreed outcome of COP20 requests that a draft negotiation text should be submitted to the UNFCCC by May 2015 (UNFCCC 2014b). However, legal certainty cannot be expected before the new climate agreement is concluded, which is scheduled to happen at COP21 in Paris in December 2015. It is widely understood that this new agreement would then become legally effective by 2020.

Recommendation: *Observe ongoing CDM reform closely with a particular focus on attempts to move the CDM, or elements thereof (perhaps even PoA concept), from the KP into the ADP negotiations for a new climate agreement.*

In the increasingly less likely scenario that even a reformed CDM (including PoAs) may not be integrated directly into the legal architecture of the future global climate regime, elements of the CDM e.g. methodologies and institutional infrastructure such as the CDM registry and technical support structure supporting the UNFCCC Secretariat could be transitioned to emerging market mechanisms. Another potentially important development could be the further elaboration of the NMM, which is anticipated to comprise at least one or several market mechanisms that operate under multilateral authority. This increases the buffet of options to blend NAMAs and various crediting mechanisms, although it can be expected that these become only operational at the earliest by 2020. This situation could become even more complex if Parties agree on an Framework for Various Approaches (FVA) which allows market mechanisms to transfer ER certificates that are regulated outside of the UNFCCC legal architecture for compliance purposes. Such an FVA may provide the glue (e.g. comparable approaches to define baselines, measure net mitigation impacts, and institutional design principles such as third-party auditing) that may allow different crediting mechanisms to be integrated into the architecture of the global climate regime.

Recommendation: *Analyze the relevance of emerging market mechanisms beyond the CDM for NAMAs, in particular linked domestic emission trading systems, while keeping in mind that most of these mechanisms are not fully defined and operational yet.*

Furthermore, while an increasing number of NAMA proposals are being developed, NAMA finance and the legal standing of NAMAs, or at least some political guidance, remain scarce. Much of international climate finance that has been channelled both through bi- and multilateral vehicles has not made it a priority that resulting mitigation actions are labelled and developed methodologically as NAMAs. This may have to do with the uncertainty on the relevance of NAMAs in the new climate agreement and the related lack of political and regulatory guidance for what UNFCCC requirements a NAMA could reasonably be expected to meet. The intense efforts in some developing countries to analyze their domestic sectoral activities and pathways, and develop NAMAs that require international support, may begin to lose acceptance and political buy-in by host country governments if financial support for implementation will not materialize in the mid-term future before 2020. Allowing NAMAs to also draw on carbon credit revenue could be one way to mobilize additional financial support for NAMA implementation in light of finite public international climate finance.

Recommendation: *In the absence of UNFCCC guidance on what is a "good" NAMA, analyze best practice case studies with the help of key performance indicators such as GHG mitigation, sustainable development impacts, transformative impact, cost efficiency, etc.*

As all countries are expected to contribute to global climate change mitigation (INDC) in the new agreement, the question of transparent accounting for ER is becoming more important in order to ensure the environmental integrity of the contributions. This process could be a critical push for a stronger establishment of NAMAs as a prime mitigation instrument for developing countries. As indicated above, many climate finance vehicles have chosen not to prioritize that supported activities position themselves as NAMAs. This can lead to the situation that the mitigation impact is not accurately assessed, in part perhaps due to the lack of financial incentives for ER.

There is no political guidance nor any conceptual research on the roles of mitigation activities of developing countries supported through market mechanisms towards INDCs. Open questions are whether the host country or the buyer country can claim the mitigation contribution? Which party can claim which contribution if the mitigation impact is only partly credited? These questions are at the heart of CDM PoA to NAMA discussion, where creditable and even tradable ERs need to be distinguished from those that are not. This is all the more relevant as a number of developing countries are expected to raise the ambition in their existing NAMAs (some of which may comprise PoA activities). This could be done potentially in a different timeframe for integration in INDCs for the purpose of its inscription into the Paris Accord in December 2015. Thus, the conceptual discussion carries relevance beyond facilitating implementation, also offering insights that may inform the ongoing political discussions. In addition, a thorough analysis of submitted INDCs with regard to the role of mitigation activities that rely on crediting could be very useful to understand the challenges.

Recommendation: *Analyze both the role of NAMAs and market mechanisms in INDCs, with a view to develop a better understanding of which role these instruments will play in the new global climate regime, and how they may both differ from and complement each other.*

In light of the above discussions, it is of the highest importance that the new climate agreement establishes a transparent and robust accounting framework which will allow a more fragmented landscape of market mechanisms and climate finance instruments to complement each other, e.g. through combinations of programmatic crediting mechanisms and NAMAs. While Parties are far away from converging on which approaches should underlie a future accounting system, there are numerous indications and references to future elements. It seems clear that some influential Annex I and developing countries oppose an accounting system at the level of accuracy of the KP. Still, achieving a minimum level of comparability and transparency is a precondition for understanding whether the level of ambition is sufficient to meet the two degree target.

Recommendation: *Analyze the potential role of approaches used both in market mechanisms and NAMAs as building blocks for a future accounting framework that allows to measure contributions and commitments by all UNFCCC Parties. Anticipate what provisions/principles will be needed in the Paris Accord to operationalize after the Paris Conference the smooth articulation between NAMAs comprising PoA before 2020 and INDC running as from 2020 and onwards, with a particular focus on accounting requirements.*

6. Conclusions

The two approaches for linking PoA and NAMA activities – scaling up a PoA to a NAMA or designing NAMAs to include PoAs – can offer opportunities to complement financing and create results-based incentives for mitigation action in developing countries. However such linking also poses risks and challenges – both legal as well as technical in nature. Several of these issues can be addressed through an appropriate accounting system based on the MRV component of the PoA and an enabling legal framework in the host country to clearly allocate rights and responsibilities between NAMA and CDM proponents. In doing so, timing for implementation should be carefully taken into consideration, while keeping in mind the possible changes in the international climate regime after 2020.

Because the host country government can approve PoAs as well as propose mitigation policies and measures as NAMAs under the UNFCCC, it has a great margin to design such enabling environment that fully reflects national priorities and circumstances, including sustainable development objectives and criteria. Particularly in the case of NAMAs, the host country is responsible for designing "appropriate" mitigation policies and measures, including at a project level, with or without the participation of the private sector or foreign entities. From that perspective, one particular institutional challenge is to enhance better coordination amongst the CDM DNA and the public authority empowered to develop NAMAs as they might work in different institutional contexts.

In addition, despite the fact that participation in the CDM and development of NAMAs are voluntary, decisions made by the host country government and its designated authorities create rights and obligations for a variety of actors.

Decisions, which affect rights and obligations of relevant stakeholders, must be made in a way so as to create appropriate incentives to domestic stakeholders, an attractive investment opportunity to international stakeholders and to prevent double counting of emissions reductions, and beyond that to ensure environmental integrity and fulfilment of nationally determined sustainable development objectives.

In the design of a NAMA, actors may have different or even conflicting interests – particularly when the private sector is involved. These conflicts must be addressed both on a legal as well as a policy design level. Resolution of such challenges is to be undertaken in accordance with domestic law of the host country, including contract law.

Decisions made by the host country government also create rights and obligations for the government itself under international law, particularly with respect to CDM participation requirements and MRV requirements for supported NAMAs. When designing and implementing a NAMA, the host country should therefore try to anticipate and prevent potential conflicts that may arise from its articulation alongside other mitigation policy instruments, in particular if there are potential overlaps with ER that are eligible to be certified and traded, as is the case for PoAs. These policy instruments are governed by international law as in the CDM or by domestic law as in a carbon tax. In both linkage scenarios, i.e. when PoAs precede a NAMA as well as when the NAMA is designed to include PoAs at a later stage, rights and obligations with precedence need to be respected, as monetary value is assigned to the ER, whether produced in an existing CPA or potentially existing within the boundaries of a prospective CPA, and thus ownership needs to be precisely defined in order not to undermine investor confidence. At the same time, the NAMA design should create an attractive opportunity for foreign donors to provide financial support, whether through a multilateral channel (e.g. the Green Climate Fund), bilateral cooperation or foreign direct investment.

Another challenge is the need to avoid double counting of emission reductions that could occur if they are attributed both towards net mitigation (NAMA) and offsetting (PoA). PoA is a programmatic crediting mechanism that creates an entitlement to certified ERs for project participants who can claim ownership of legal title on CERs unless provided otherwise by national law. These credits can be internationally traded and used as offsets for Annex I compliance purposes. Conversely, a NAMA is an instrument aimed at achieving net GHG mitigation exclusively by the host country, which also contributes to global efforts to tackle climate change. There are several accounting options, in which the host country either obtains ownership of ERs or where CMEs retain ownership of ERs included in the CDM and only ERs not covered by the CDM would be counted towards the NAMA. A hybrid approach is transferring a share of ERs from the CME to the NAMA, which could be determined ex-post, ex-ante, or levied as a NAMA tax. This is to be based on an adequate allocation of ERs to upstream activities including enabling or administrative activities. Regardless of the chosen accounting option, statutory rules must be adopted by the host country in order to preserve ownership rights of CDM project participants and/or maintain incentives to foreign states and investors to provide financial support to NAMA. Whichever design option is chosen, regulators need to be conscious of the need to prevent double counting and/or claiming.

In case of appropriation of PoAs by the state, CDM proponents and buyers of CER futures carry some risk of failing to deliver CERs as expected. Legal risks may be addressed by introducing ERPAs between the CME and CER buyers that provide certainty with regard to future CER generation in the face of possible changes in law. This would, however, only help settle disputes on a case-by-case basis, and not reassure foreign states and investors. In the case of NAMA design for later PoA inclusion, legal risks are less significant because CDM proponents and CERs buyers would know ex-ante if and how a PoA can be included into the NAMA. Given the numerous challenges and the novel nature of such an approach, PoAs may provide a suitable precursor for NAMAs only in case of very well coordinated NAMA host countries and collaborative CMEs.

A framework to address challenges from ER ownership should derive the attribution of emissions reductions from statutory rules and modalities. This decision should anticipate the possibility for NAMA financiers to impose particular conditions upon which its financial support would be contingent. It should also anticipate the possible role of crediting in the future international climate regime post-2020, notably in the event NAMAs become Nationally Determined Contributions. As a result of embedding NAMAs into countries' formal emissions reductions targets, the legal nature of INDCs may be strengthened as it would build on the legal building blocks of the NAMAs in the respective sectors. In order to ensure a level playing field, rules and modalities to prevent double counting should therefore be adopted at the international level. The COP could instruct the Subsidiary Body for Scientific and Technical Advice to conduct further technical work on this issue, taking account of possible developments of the international climate regime post-2020, with a view to providing countries with greater clarity and guidance for developing such innovative approaches based on synergistic public and private sector involvement.

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